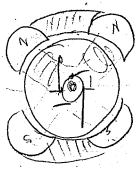
Notebook, N-88-06-26

This notebook was used by Edison in June 1888 for notes, drawings, and calculations regarding a motor for the phonograph. The front cover is labeled "514." The spine is labeled "70." The pages are unnumbered. Approximately 20 pages have been used.

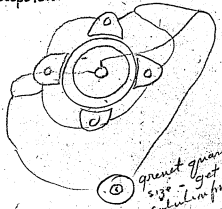
VE-172 N-88-06-26 5/4

T.A. Σ



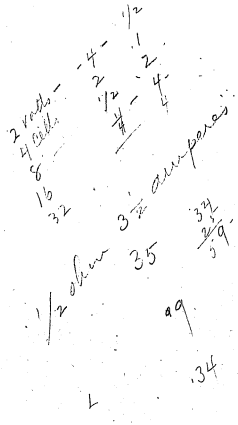
June 26 1888

Experiments on phonograph motor multipolar



CP Wax - Knife angle 38 @ 40 -
.004 depth of Cut.

Measurements by Kennelly



Cell 1.8 volts

Resistance of Motor Complete still

.34 — The field coils are 2 in series & then the 2 in Multiple, governor magnet ~~also~~ out of circuit — Rheostat 1.25, Res armature .4

Turning off .004 -
Speed 132 not governing
3.34 amperes
1.46 volts at Motor terminals
4.67 watts, or 207 ft lbs in Motor

Spectacle up everything running
Speed 172
3.15 amperes
1.5 Volts across motor
4.72 watts 209 ft lbs in motor

Spectacle moving
Speed 144 -
3.21 amp
1.49 Volts
4.78 watts 212 ft lbs

Resistance Present coil. -14 ohm
Emf 1.994-

Field Coils all multiple used 10 amper
motor scarcely runs.

Motor Coils in series. 1 coil.
does not run it more than 40 Rev running
off-

Motor Coils series 2 coils -
3. amp - 3.12 Volts on Motor.
running off 004 — 2nd Reading
3.05 amp 3 Volts.
395 ft lbs. Speed 184

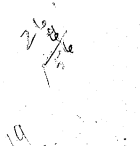
governed way down loss
possible Speed 102. 2.8 amps
2.95 Volts

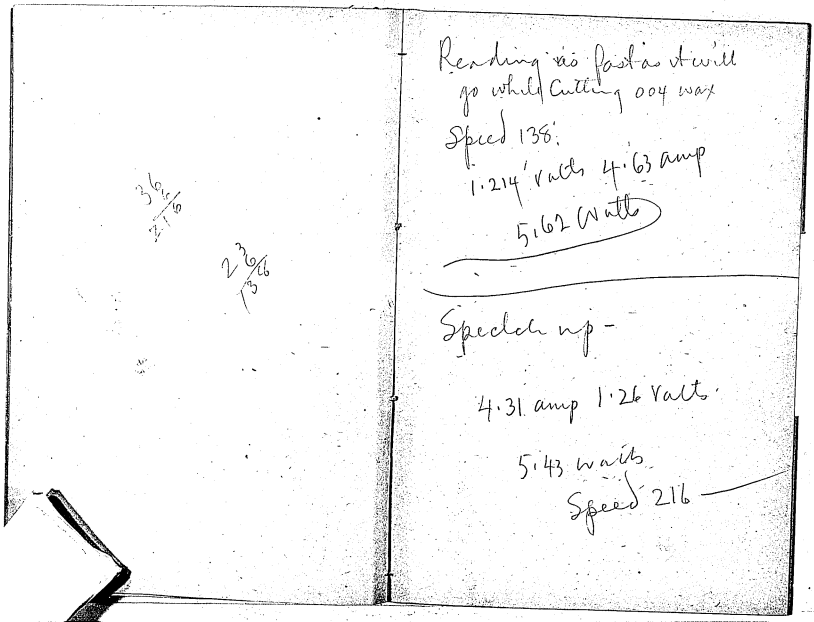
Motor - drake single turn
field in series 3.59 now
2 series 2 m.a. .9 ohm -
.004 way turning speed 156 -
amp. 4.73 - 1.18 volts
5.588 watts -

Regulating
Speed 138 -
4.8 amp 1.15 volts.
- 5.5 watts.

Measured Brd

Regulating slower speed 114 -
4.84 amp 1.17 volts
5.66.




Reading as fast as it will go whilst cutting 004 wax

Speed 136.

1.214 volts 4.63 amp

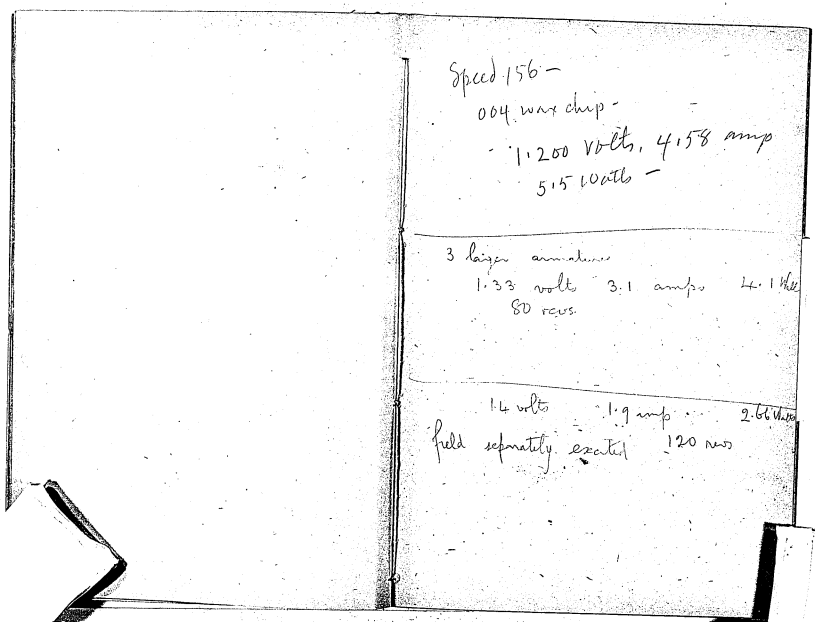
5.62 Watts

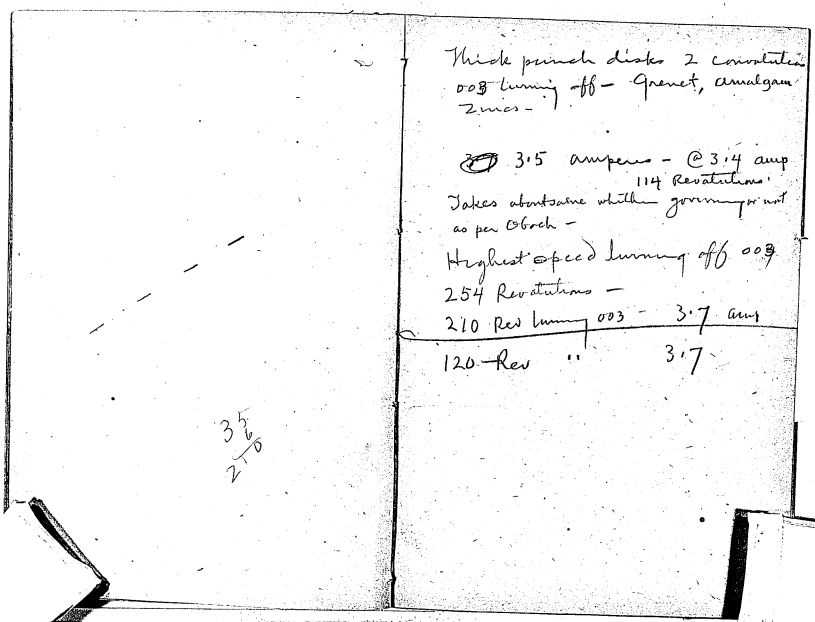
Speeded up -

4.31 amp 1.26 volts.

5.43 watts

Speed 216


Speed 156 –
004 max chip -
1,200 volts, 4,158 amp
5,15 watts –
3 layer armature
1.33 volts 3.1 amps 4.1 Kw
80 revs.
1.4 volts 1.9 amps 2.66 Watts
field separately excited 120 revs



Thirde primeh disks 2 commutator
008 burning off – Garnet, amalgam
2 mos –

3.5 amperes – @ 3.4 amp
114 Revolutions
Takes about same whether governor is not
as per Gbrch –
Highest speed burning off 008
254 Revolutions –
210 Rev burning 003 – 3.7 amp
120 Rev " 3.7

Punched disks 3 convolutions
Bell 3 to 1 -

2.6 amps turning off 80
Revolutions governing -

Motor alone with pinion
disconnected 2 amps
as per table 1.2 this leaves
.8 amp to run motor equal to
180 Rev of pinion -

Motor running Clamp governing
250 of photo heads.
2.1 amp

138 Rev turning off Heads
2.6

at 102 Rev turning off + governing rheostat 2.5

Solid Ring 3 Convolutions

Turning off pulley 3 to 1 — same plane

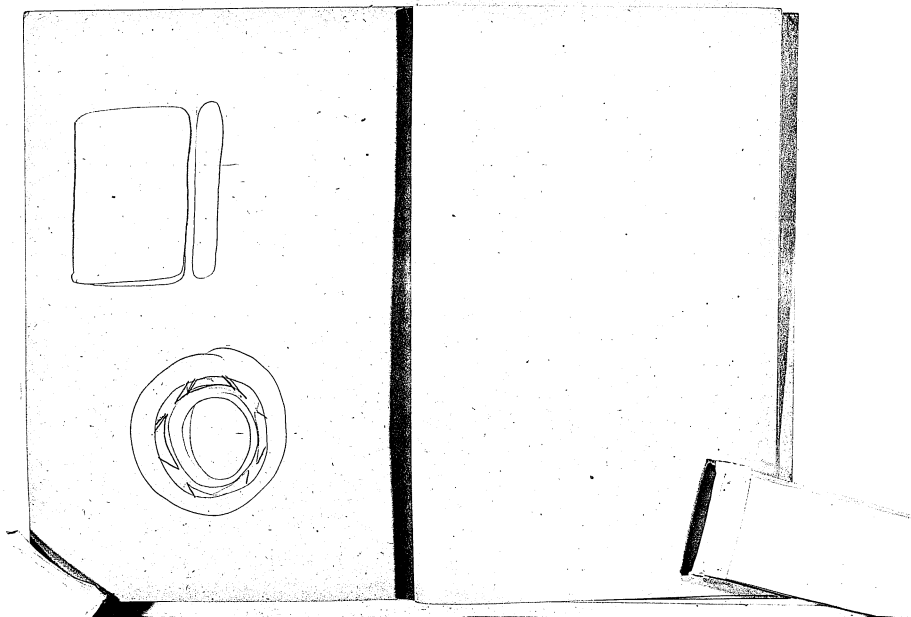
Rev. 84. 2.6 amp-

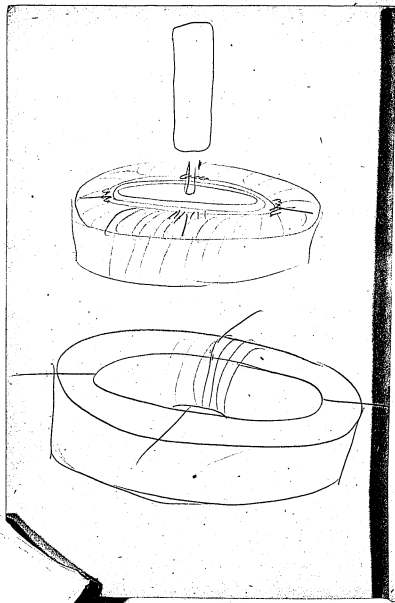
96 Rev not governing 2.8

Motor blocked 3.1/2

Weight of Zinc 379 Grams

Salad ring 3 Cornelius
2.13 - turning off not going
go Revs

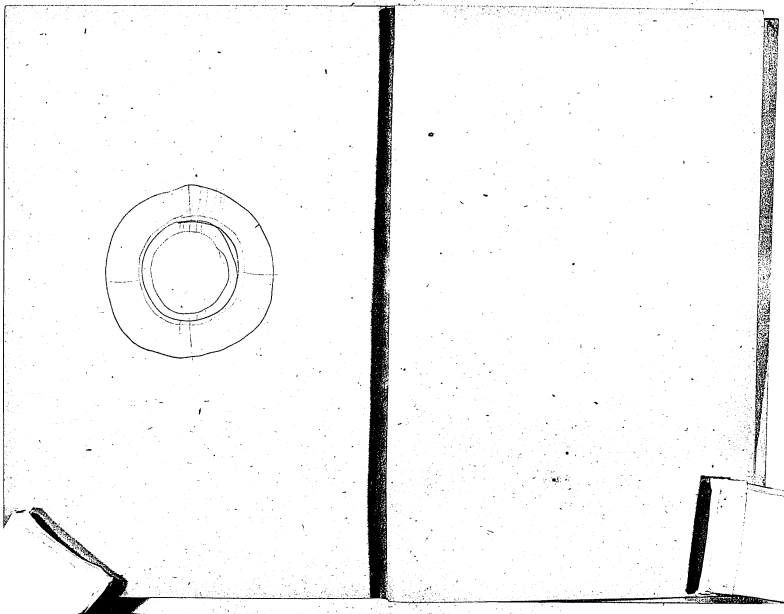


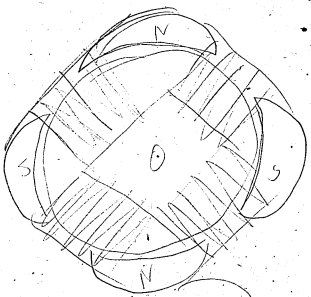


6

36 Cu Inches
30
1080

3 feet
144
3
432
-
5-32

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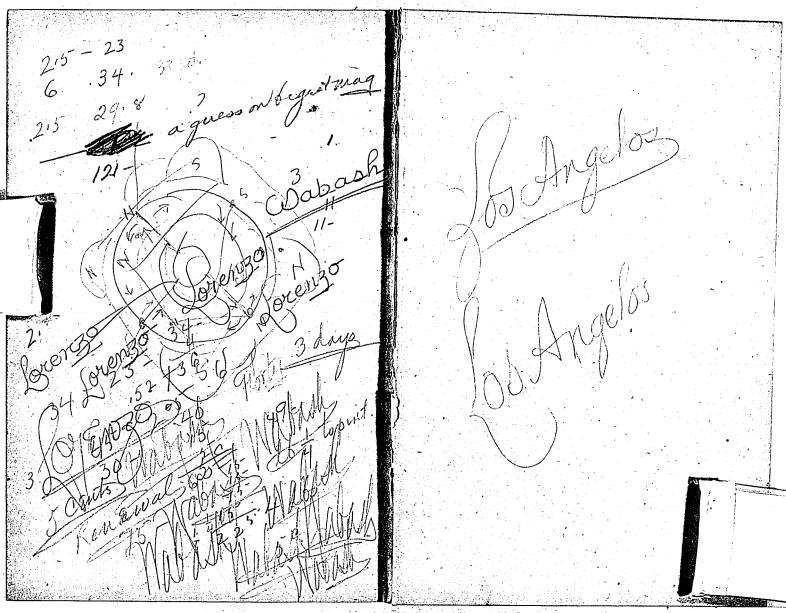
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